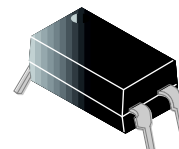


RoHS Compliant Product
A suffix of "-C" specifies halogen & lead-free

DESCRIPTION

The BL817-C Series of devices each consist of an Infrared Emitting Diodes, optically coupled to a phototransistor detector. They are packaged in a 4-pin DIP package and available in Wide-lead spacing and SMD option.

DIP4



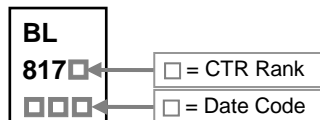
FEATURES

- Current Transfer Ratio (CTR: 50%~600% @ $I_F=5mA$, $V_{CE}=5V$)
- High Isolation Voltage Between Input and Output ($V_{iso}=5000V$ rms)
- Creepage Distance > 7.62mm
- UL/CUL Approved

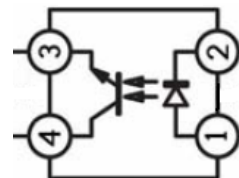
APPLICATIONS

- Programmable Controllers
- System Appliances, Measuring Instruments
- Telecommunication Equipments
- Home Appliances, Such as Fan Heaters, etc.
- Signal Transmission Between Circuits of Different Potentials and Impedances

MARKING



Top View



ORDER INFORMATION

Part Number	Type
BL817-□-C	Lead (Pb)-free and Halogen-free

*□=Rank

RANK TABLE OF CURRENT TRANSFER RATIO CTR

Product-Rank	BL817-L-C	BL817-A-C	BL817-B-C	BL817-C-C	BL817-D-C	BL817-E-C
Range(%)	50~100	80~160	130~260	200~400	300~600	50~600

ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise specified)

Parameter		Symbol	Ratings	Unit
Input	Forward Current	I_F	50	mA
	Peak Forward Current ¹	I_{FM}	1	A
	Reverse Voltage	V_R	6	V
	Power Dissipation	P_D	70	mW
Output	Collector-Emitter Voltage	V_{CEO}	80	V
	Emitter-Collector Voltage	V_{ECO}	6	V
	Collector Current	I_C	50	mA
	Collector Power Dissipation	P_C	150	mW

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Ratings	Unit
Total Power Dissipation	P_{tot}	200	mW
Isolation Voltage ²	V_{iso}	5000	V _{rms}
Rated Impulse Isolation Voltage	V_{IOTM}	6000	V
Rated Repetitive Peak Isolation Voltage	V_{IORM}	630	V
Thermal Resistance Junction-Ambient	$R_{\theta JA}$	430	°C/W
Thermal Resistance Junction-Case	$R_{\theta JC}$	350	
Thermal Resistance Junction- Lead	$R_{\theta JL}$	368	
Operating Temperature	T_{opr}	-55~110	°C
Storage Temperature	T_{stg}	-55~125	
Soldering Temperature ³	T_{sol}	260	

Notes:

1. Pulse width $\leq 100\text{ms}$, Duty ratio: 0.001.
2. 40~60% RH, AC for 1 minute.
3. For 10 Seconds.

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Input	Forward Voltage	V_F	-	1.2	1.4	V	$I_F=20\text{mA}$
	Peak Forward Voltage	V_{FM}	-	-	3	V	$I_{FM}=0.5\text{A}$
	Reverse Current	I_R	-	-	10	μA	$V_R=4\text{V}$
	Input Capacitance	C_i	-	30	-	pF	$V=0, f=1\text{KHz}$
Output	Collector-Emitter Dark Current	I_{CEO}	-	-	100	nA	$V_{CE}=20\text{V}, I_F=0$
	Collector-Emitter Breakdown Voltage	BV_{CEO}	80	-	-	V	$I_C=0.1\text{mA}, I_F=0$
	Emitter-Collector Breakdown Voltage	BV_{ECO}	6	-	-	V	$I_E=10\mu\text{A}, I_F=0$
Transfer Characteristics	Collector Current	I_C	2.5	-	30	mA	$V_{CE}=5\text{V}, I_F=5\text{mA}$
	Current Transfer Ratio	CTR	50	-	600	%	
	Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	-	0.1	0.2	V	$I_F=20\text{mA}, I_C=1\text{mA}$
	Isolation Resistance	R_{iso}	5×10^{10}	1×10^{11}	-	Ω	$V_{IO}=500\text{V}_{DC}$ 40~60%R.H.
	Floating Capacitance	C_f	-	0.6	-	pF	$V=0, f=1\text{MHz}$
	Cut-off Frequency	f_c	-	80	-	KHz	$V_{CE}=5\text{V}, I_C=2\text{mA}, R_L=100\Omega, -3\text{dB}$
	Turn On Time	T_{on}	-	4	-	μs	$V_{CE}=2\text{V}, I_C=2\text{mA}, R_L=100\Omega$
Turn Off Time	T_{off}	-	3	-			

CHARACTERISTIC CURVE

Fig. 1 Collector-Emitter Saturation Voltage vs. Ambient Temperature

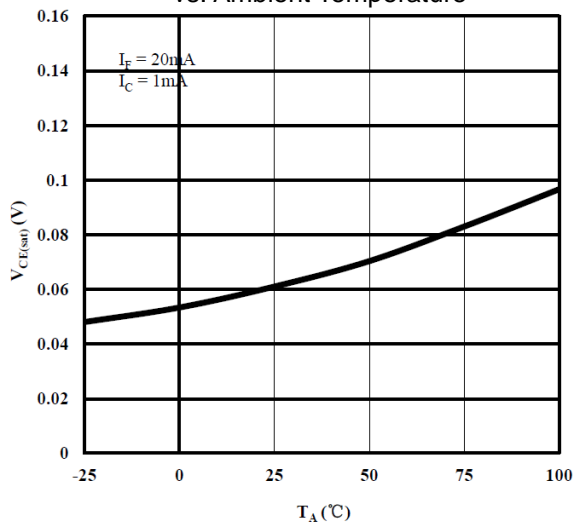


Fig. 2 Forward Current vs. Forward Voltage

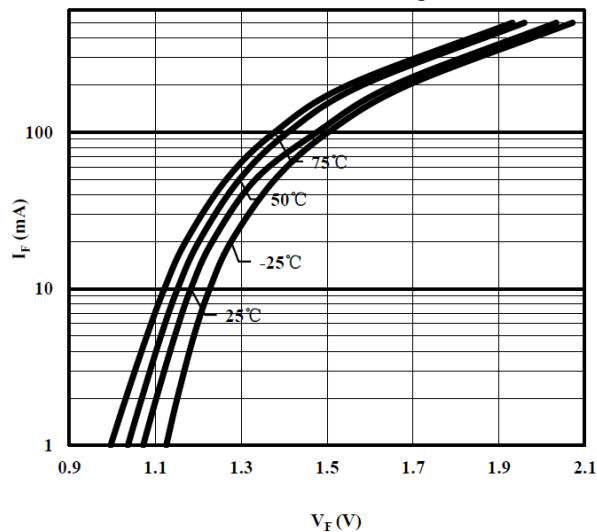
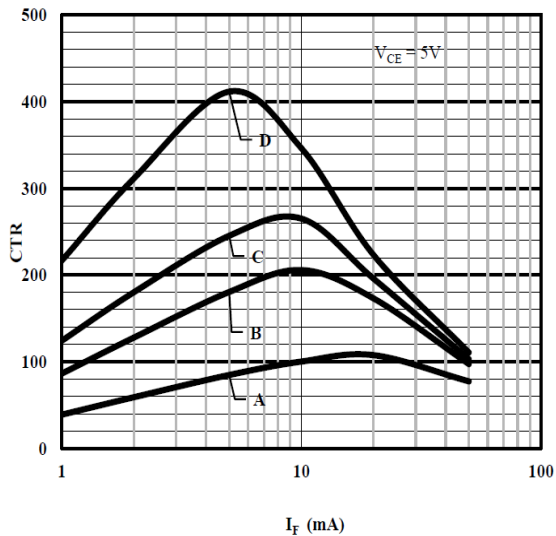
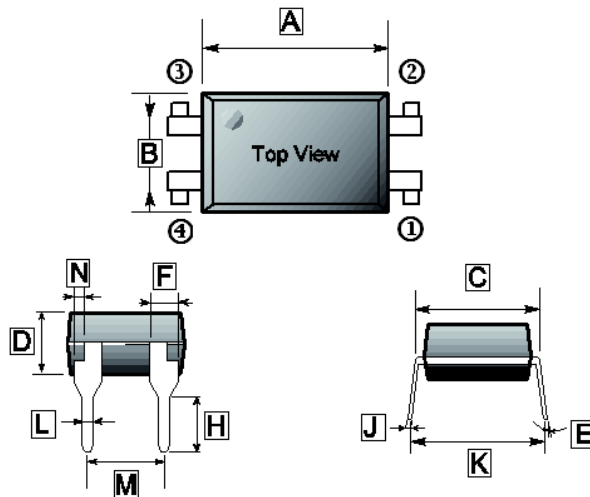


Fig. 3 Current Transfer Ratio vs. Forward Current



PACKAGE OUTLINE DIMENSIONS

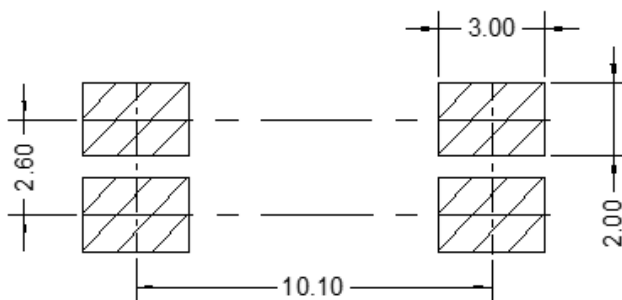
DIP4



REF.	Millimeter	
	Min.	Max.
A	6.35	6.65
B	4.45	4.75
C	7.35	8.30
D	3.20	3.70
E	2°	8°
F	1.25 TYP.	
H	2.65	3.00
J	0.20	0.30
K	8.65	9.35
L	0.50 TYP.	
M	2.40	2.70
N	0.40 TYP.	

MOUNTING PAD LAYOUT

DIP4



*Dimensions in millimeters